

## TYPICAL WIRING DIAGRAM

Figure 1(a) shows the typical wiring diagram of the 2-wire multiple-station smoke detector system.

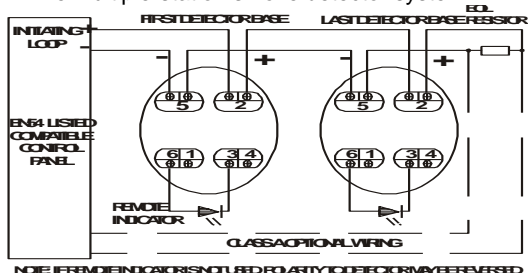


Figure 1(b) shows the typical wiring diagram of the 4-wire multiple-station smoke detector system.

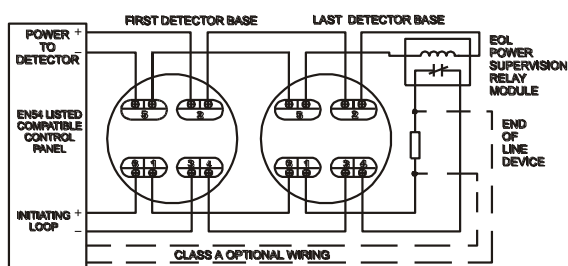


Fig. 1.B Installing the 4-wire multiple station smoke detector base

## WARNING

**TO PREVENT DETECTOR CONTAMINATION AND SUBSEQUENT WARRANTY CANCELLATION, THE SMOKE DETECTOR MUST REMAIN COVERED UNTIL THE AREA IS CLEAN AND DUST FREE.**

## INSTALLING THE BASE

1. To insure proper installation of the detector head to the base, all the wires should be properly addressed at installation:
  - (A) Position all the wires flat against terminals.
  - (B) Fasten the wires away from connector terminals.
2. If you use a jumper wire to connect the poles of terminal 2 and 5 when testing the detector loop continuity, be sure to remove the jumper wire prior to the installation of the detector head.
3. The end-of-line device shown in fig. 1(a) and 1(b) should be compatible with the control unit. The end-of-line supervisory relay used should be rated for the DC power voltage used.
4. Open area smoke detectors are intended for mounting on a ceiling or a wall in accordance with the fire standard in your country.
5. The base of the smoke detector can be mounted directly onto an electrical junction box such as an octagonal (75mm, 90mm or 100mm), a round (75mm), or a square (100mm) box without using any type of mechanical adapter.

## INSTALLING THE HEAD

1. Align the components as shown in Figure 2.
2. Mate the detector head onto the base and twist clockwise to secure it.
3. Do not install the detector head until the area is

thoroughly cleaned of construction debris, dusts, etc. The maximum number of smoke detector installed in the same detection zone is typically 30 units. Refer to control panel manual.

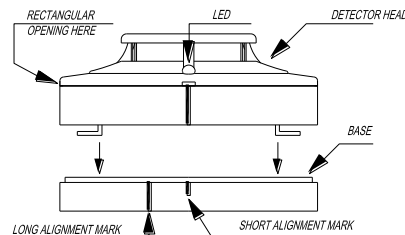


Fig.2 Mating detector head onto base

Fig. 2 Fitting detector head onto base

## ADJUSTING THE RELAY FOR NO/NC

The normal condition for the relay is "normally open" (NO).

1. To adjust the normal condition of the relay to "normally closed" (NC), insert a screwdriver into the rectangular hole located on the side between the front cover and base and rotate to remove the front cover.
2. Refer to figure 3. There is a jumper head next to the relay on the PCB. Remove the jumper head and reinsert it in the NC position.
3. Carefully replace the front cover.

Relay contact rating:

1A@30VDC,

0.5A@125VAC.

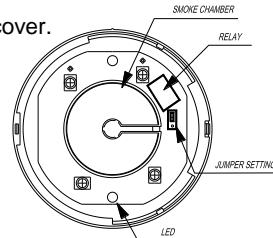


Fig.3 Schematic of detector structure

Fig. 3 Schematic of detector structure  
When front cover is open.

## TESTING

1. All remote signaling systems, releasing devices and extinguishing systems should be disconnected during the test period and reconnected at the conclusion of testing.
2. After energizing the detector head for approximately one minute, check to see the indicator green LED flashing once every 3~5 seconds. If green LED fails to flash, it indicates the non-functioning of the detector or faulty wiring. Re-check the wiring or replace the detector if necessary.
3. Allow smoke from a cotton wick or a test smoke aerosol to enter the detector-sensing chamber for at least 10 seconds. When sufficient smoke has entered the chamber, the detector will signal an alarm, this being visible by a continuous illumination of the LED. Reset each detector and/or control unit before attempting to test any additional detectors in the same zone. If the alarm fails in this step, it indicates a defective unit, which requires service.

## HEAT SENSOR TESTING

The detector to be tested should be subject to a flow of warm air at a temperature of between 65°C and 80°C. (This requirement can be met by some domestic hair dryers).

Proceed as follows:

1. Switch on the warm airflow and check that temperature is correct and stable.
2. From a distance of several inches, direct the airflow at the guard protecting the thermistor. The detector should alarm within 30 seconds.
3. Upon alarm immediately remove the heat source and check that the red LED of the detector is illuminated. Reset the detector from the control panel.
4. If a detector fails to activate within 60 seconds, confirm connections and programming. If necessary replace and return to distributor for recalibration.
5. After testing, check that the system is set for normal operation and notify the appropriate authorities that the testing operation is complete and the system is active

## SPECIFICATION

Model	2/4 wire	Thermal	Voltage DC	Standby Current (Max.)	Alarm Current (Max.)	Surge Current (Max.)	Star-Up Time (Max.)	Permissible Current (Max.)	Frequency	Alarm Sound level	Alarm contact	Base model
GFE-S-2	2		28/12V	90 $\mu$ A	70mA	120 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-		P/N772912
GFE-S-2L	2		28/12V	90 $\mu$ A	70mA	120 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-		P/N774912
GFE-S-4-12	4		12V	320 $\mu$ A	35mA	120 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-	Form A	P/N774912
GFE-S-4-24	4		24V	320 $\mu$ A	35mA	120 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-	Form A	P/N774912
GFE-SH-2	2	57°C	28/12V	100 $\mu$ A	70mA	130 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-		P/N772912
GFE-SH-2L	2	57°C	28/12V	100 $\mu$ A	70mA	130 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-		P/N774912
GFE-SH-4-12	4	57°C	12V	320 $\mu$ A	35mA	130 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-	Form A	P/N774912
GFE-SH-4-24	4	57°C	24V	320 $\mu$ A	35mA	130 $\mu$ A	60 Seconds	80mA	3-5 Seconds	-	Form A	P/N774912

**Remarks:** H-heat/ L-remote LED indicator output

En 54 part 7	Certificate number: 0845-CPD-232.1489
En 54 part 5/7	Certificate number: 0845-CPD-232.1490

## LIMITED WARRANTY STATEMENT

Global Fire Equipment S.A. declares that this product is free from defects in material and workmanship. And it will repair or replace any product or part thereof which proves to be defective in workmanship or material for a period of 24 months from the date of purchase. Please visit the Global Fire Website for a full description of Global Fire Equipment's LIMITED WARRANTY, which, among other things, limits the duration of warranties of merchantability and fitness for a particular purpose and excludes liability for consequential damages. Acceptance of order and/or original invoice which will become part of your sales agreement. Please contact Global Fire Equip directly for a return merchandise authorization (RMA) number before returning goods to the factory. Shipment must be prepaid and Global Fire repair or replace your returned detector.



**Global Fire Equipment S.A.**

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## NOT SUITABLE FOR INSTALLATION IN AREAS WHERE AIR VELOCITIES EXCEED 300 ft/min

## MAINTENANCE

The recommended minimum requirement for detector maintenance consists of an annual cleaning of dust from the detector head by using a vacuum cleaner cleaning program should be agreed to the individual environment in conformance with NFPA-72A standard.

**Note: This product is factory sealed and does not contain user serviceable parts. Opening THE DETECTOR HEAD WILL VOID THE WARRANTY.**

**REFERENCE TO THE TECHNICAL BULLETIN ISSUE NO. NBTB20031106,REV.A**